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09/754,301	01/05/2001	Masayoshi Hashima	1075.1137/JDH	3311

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EXAMINER	
STEVENS, THOMAS H	
ART UNIT	**PAPER NUMBER**
2123	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/754,301	Applicant(s) HASHIMA ET AL.	
	Examiner Thomas H. Stevens	Art Unit 2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/28/2006 & 10/27/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-10 and 12-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-10 and 12-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/27/2006 8/28/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 2-10 and 12-21 were examined.

Section I: Non-Final Rejection

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 2-10 and 12-21 are rejected under 35 U.S.C. 101 because the functional language is not directed towards a tangible result.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 2-10 and 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al., (US Patent 5,907,487 hereafter Rosenberg) in view of Ridgell, Jr. et al., (US Patent 6,442,104 hereafter Ridgell). Rosenberg teaches support system comprising: a mechanism (Rosenberg: column 46, lines 47-50) designing section for three-dimensionally designing a mechanism (Rosenberg: column 46, lines 47-50) composed of a plurality of parts including an actuator and a sensor (Rosenberg: column 9, line 38); a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section, in which the mechanism (Rosenberg: column 46, lines 47-50) is structured as a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model for simulating (Rosenberg: column 1, line 26) an operation mechanism (Rosenberg: column 46, lines 47-50): an embedded software (Rosenberg: column 24, line 42) developing section for developing a control (Rosenberg: column 1, line 26, "controlled simulations") program, which is to be embedded in the mechanism (Rosenberg: column 46, lines 47-

50) to control (Rosenberg: column 1, line 26, “controlled simulations”) the operation of the mechanism, as embedded software (Rosenberg: column 24, line 42); but fails to teach first and second interfaces. Ridgell teaches first and second interfaces (Ridgell: column 3, lines 65-67).

Rosenberg and Ridgell are analogous since they teach computer simulation.

Therefore it would have been obvious to one having ordinary skill in the art at the time of invention was made to utilize the plurality of computer simulation devices of Ridgell in the sensor signal indicators of Rosenberg because Ridgell teaches a method to reduce the amount of hardware necessary to generate the larger number of digital signals required for a realistic simulation (Ridgell: column 3, lines 33-35).

Claim 2. A support system according to claim 3, wherein said first interface (Ridgell: column 3, line 59) section inputs the result of the simulating (Rosenberg: column 1, line 26) by said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section from said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section to said mechanism (Rosenberg: column 46, lines 47-50) designing section to be reflected on the designing of the mechanism.

Claim 3. A support system comprising: a mechanism (Rosenberg: column 46, lines 47-50) designing section for three-dimensionally designing a mechanism (Rosenberg: column 46, lines 47-50) composed of a plurality of parts including an actuator and a sensor (Rosenberg:

column 9, line 38); a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section, in which the mechanism (Rosenberg: column 46, lines 47-50) is structured as a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model for simulating (Rosenberg: column 1, line 26) an operation mechanism (Rosenberg: column 46, lines 47-50): an embedded software (Rosenberg: column 24, line 42) developing section for developing a control (Rosenberg: column 1, line 26, "controlled simulations") program, which is to be embedded in the mechanism (Rosenberg: column 46, lines 47-50) to control (Rosenberg: column 1, line 26, "controlled simulations") the operation of the mechanism, as embedded software (Rosenberg: column 24, line 42); a first interface (Ridgell: column 3, line 65) section for inputting design data, which is created in said mechanism (Rosenberg: column 46, lines 47-50) designing section a the result of the designing by said mechanism (Rosenberg: column 46, lines 47-50) designing section, from said mechanism (Rosenberg: column 46, lines 47-50) designing section to said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section to be reflected on the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model: and a second interface (Ridgell: column 3, line 67) section transferring actuator instruction data and sensor (Rosenberg: column 9, line 38) data between said three-dimensional-mechanists model simulating (Rosenberg: column 1, line 26) section and said bedded software (Rosenberg: column 24, line 42) developing section while synchronizing said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said embedded software (Rosenberg: column 24,

line 42) developing section in operation with each other, wherein: said embedded software (Rosenberg: column 24, line 42) developing section includes a status-transition diagram or table (common feature in software)creating section for creating and editing a status-transition diagram or table (common feature in software)describing specifications of the embedded software (Rosenberg: column 24, line 42) to execute detailed designing of the embedded software (Rosenberg: column 24, line 42); and said second interface section transfers data between said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section while synchronizing said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section in operation with each other.

Claim 4. A support system according to claim 3, wherein: said status-transition diagram or table (common feature in software) creating section employs a multi-task, which executes a plurality of tasks in parallel to one another, and executes, separately from the plural tasks (Rosenberg: column 1, lines 25-27, "control led simulations"), a synchronous (Rosenberg: column 37, lines 20-24) task functioning so as to stop the plural tasks (Rosenberg: column 2, lines 25-27, "control led simulations") during the simulation operation of said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section; and said second interface (Ridgell: column 3, lines 65-67) section synchronizes said three-dimensional-mechanism (Rosenberg: column 46,

lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section in operation with each other using the synchronous (Rosenberg: column 37, lines 20-24) task.

Claim 5. A support system according to claim 4, wherein the synchronous (Rosenberg: column 37, lines 20-24) task is set to a highest priority to control (Rosenberg: column 1, line 26, “controlled simulations”) starting/stopping of the plural tasks (Rosenberg: column 2, lines 25-27, “control led simulations”) in accordance to the synchronous (Rosenberg: column 37, lines 20-24) task to thereby synchronize said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section in operation with each other.

Claim 6. A support system according to claim 6 wherein: said embedded software (Rosenberg: column 24, line 42) developing section includes a microcomputer chip (Rosenberg: column 8, line 8) in which said embedded software (Rosenberg: column 24, line 42) is embedded during the developing; and said second interface (Ridgell: column 3, lines 65-67) section transfers data between said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8) while synchronizing said three-dimensional-mechanism (Rosenberg:

column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8)in operation with each other.

Claim 7. A support system according to claim 6, wherein: said microcomputer chip (Rosenberg: column 8, line 8) employs a multi-task, which executes a plurality of tasks in parallel to one another, and executes, separately from the plural tasks (Rosenberg: column 1, line 26, "controlled simulations"), a synchronous (Rosenberg: column 37, lines 20-24) task functioning so as to stop the plural tasks (Rosenberg: column 2, lines 25-27, "control led simulations") during the simulation operation of said three--dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section; and said second interface (Ridgell: column 3, lines 65-67) section synchronizes said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8)in operation with each other using the synchronous (Rosenberg: column 37, lines 20-24) task.

Claim 8. A support system according to claim 7, wherein said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8) are synchronized (common feature in computer operating system, e.g., Microsoft) in operation with each other by setting the synchronous (Rosenberg: column 37, lines 20-24) task to a highest priority (user's discretion) to control (Rosenberg: column 1, line 26, "controlled simulations") starting/stopping of the plural tasks (Rosenberg: column 2,

lines 25-27, “control led simulations”) in accordance to the synchronous (Rosenberg: column 37, lines 20-24) task.

Claim 9. A support system according to claim 7, wherein said second interface (Ridgell: column 3, lines 65-67) section transfers: an actuator instruction signal for the actuator in the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model from said embedded software (Rosenberg: column 24, line 42) developing section to said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section; and a sensor (Rosenberg: column 9, line 38) signal, which is obtained as the result of simulation in response to said actuator instruction signal, (Rosenberg: column 4, line 35-36)from said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section to said embedded software (Rosenberg: column 24, line 42) developing section.

Claim 10. A support system according to claim 9, further comprising an analyzing section for analyzing and displaying variation of said actuator instruction signal for the actuator and said sensor (Rosenberg: column 9, line 38) signal from said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section with real time.

Claim 12. A computer readable recording medium according to claim13, wherein said first interface (Ridgell: column 3, line 59) program input a suit of the simulating (Rosenberg: column 1, line 26) by said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section from said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section to said mechanism (Rosenberg: column 46, lines 47-50) designing section to be reflected on the designing of the mechanism.

Claim 13. A computer-readable recording medium according to claim 13, in which a support program to realize, on a computer, a function of assisting a development of embedded software (Rosenberg: column 24, line 42) to be embedded in a mechanism, composed of a plurality of parts including an actuator and a sensor (Rosenberg: column 9, line 38), as a control (Rosenberg: column 1, line 26, "controlled simulations") program to control (Rosenberg: column 1, line 26, "controlled simulations") the mechanism (Rosenberg: column 46, lines 47-50) is recorded, said support program (software) comprising: a mechanism (Rosenberg: column 46, lines 47-50) designing program for instructing the computer to function as a mechanism (Rosenberg: column 46, lines 47-50)designing section which designs the mechanism (Rosenberg: column 46, lines 47-50) three-dimensionally; a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50)model simulating (Rosenberg: column 1, line 26) program for instructing the computer to function as a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50)

simulating (Rosenberg: column 1, line 26) region in which the mechanism (Rosenberg: column 46, lines 47-50) is structured as a three-dimensional-mechanism (Rosenberg: column 46, lines 47-50)model for simulating (Rosenberg: column 1, line 26) an operation of the mechanism (Rosenberg: column 46, lines 47-50) an embedded software (Rosenberg: column 24, line 42) developing program for instructing the computer to function (common functions of a computer) as an embedded software (Rosenberg: column 24, line 42) developing section which develops the embedded software (Rosenberg: column 24, line 42); a first interface (Ridgell: column 3, line 59) program for instructing the computer to function (common functions of a computer) as a first interface (Ridgell: column 3, line 59) section for inputting designing data which is created in said mechanism (Rosenberg: column 46, lines 47-50) designing section as the stilt of the designing by said mechanism (Rosenberg: column 46, lines 47-50)designing section, from the mechanism (Rosenberg: column 46, lines 47-50) designing section to the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section to be reflected on the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model: a second interface (Ridgell: column 3, lines 65-67) program for instructing the computer to function as a second interface (Ridgell: column 3, lines 65-67) section which transfers actuator instruction data and sensor (Rosenberg: column 9, line 38) data between the three dimensional-mechanism (Rosenberg: column 46, lines 47-50)model simulating (Rosenberg: column 1, line 26) section and the embedded software (Rosenberg: column 24, line 42) developing section while synchronizing the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50)model simulating

(Rosenberg: column 1, line 26) section and the embedded software (Rosenberg: column 24, line 42) developing section in operation with each other, wherein: said embedded software (Rosenberg: column 24, line 42) developing program includes a status-transition diagram or table (common feature in software) creating program instructing the compiler (common feature in software) to function as a status-transition diagram or table (common feature in software)creating section for creating and editing (common in most software programs) a status-transition diagram or table (common feature in software) describing specifications of the embedded software (Rosenberg: column 24, line 42) to execute detailed designing of the embedded software (Rosenberg: column 24, line 42); and said second interface (Ridgell: column 3, lines 65-67) program transfers data between said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section while synchronizing said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section in operation with each other.

Claim 14. A computer-readable recording medium according to claim 13, wherein: said status-transition diagram or table (common feature in software) creating program employs a multi-task, (Rosenberg: column 1, line 26, “controlled simulations”) which executes a plurality of tasks (Rosenberg: column 1, line 26, “controlled simulations”) in parallel to one another, and executes, separately from the plural tasks

(Rosenberg: column 1, lines 25-27, “control led simulations”), a synchronous (Rosenberg: column 37, lines 20-24) task functioning so as to stop the plural tasks (Rosenberg: column 2, lines 25-27, “control led simulations”) during the simulation operation of said-three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section; and said second interface (Ridgell: column 3, lines 65-67) program synchronizes said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section in operation with each other using the synchronous (Rosenberg: column 37, lines 20-24) task.

Claim 15. A computer-readable recording medium according to claim 14, wherein said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said status-transition diagram or table (common feature in software) creating section are synchronized (common feature in computer operating system, e.g., Microsoft) in operation with each other by setting the synchronous (Rosenberg: column 37, lines 20-24) task to a highest priority to control (Rosenberg: column 1, line 26, “controlled simulations”) starting/stopping of the plural tasks (Rosenberg: column 2, lines 25-27, “control led simulations”) in accordance to the synchronous (Rosenberg: column 37, lines 20-24) task.

Claim 16. A computer-readable recording medium according to slain-1-1tlaim 13, wherein said second interface (Ridgell: column 3, lines 65-67) program transfers data between said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and a microcomputer chip, in which said embedded software (Rosenberg: column 24, line 42) being developed is embedded, while synchronizing said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8) in operation with each other.

Claim 17. A computer-readable recording medium according to claim 16, wherein: said microcomputer chip (Rosenberg: column 8, line 8) employs a multi-task, which executes a plurality of tasks (Rosenberg: column 1, lines 25-27, "control led simulations") in parallel to one another, and executes, separately from the plural tasks (Rosenberg: column 1, lines 25-27, "control led simulations"), a synchronous (Rosenberg: column 37, lines 20-24) task functioning so as to stop the plural tasks (Rosenberg: column 2, lines 25-27, "control led simulations") during the simulation operation of said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section: and said second interface (Ridgell: column 3, lines 65-67) program synchronizes said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8) in operation with each other using the synchronous (Rosenberg: column 37, lines 20-24) task.

Claim 18. A computer-readable recording medium according to claim 17, wherein said synchronous (Rosenberg: column 37, lines 20-24) task is set to a highest priority (user's choice) to control (Rosenberg: column 1, line 26, "controlled simulations") starting/stopping of the plural tasks (Rosenberg: column 2, lines 25-27, "control led simulations") in accordance to the synchronous (Rosenberg: column 37, lines 20-24) task to thereby synchronize said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section and said microcomputer chip (Rosenberg: column 8, line 8) in operation with each other.

Claim 19. A computer-readable recording medium according to claim 13, wherein said second Interface program transfers: an actuator instruction signal for the actuator in the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model from said embedded software (Rosenberg: column 24, line 42) developing section to said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50)model simulating (Rosenberg: column 1, line 26) section; and a sensor (Rosenberg: column 9, line 38) signal, which is obtained as their result of simulation in response to said actuator instruction signal, (Rosenberg: column 4, line 35-36) from said three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section to said embedded software (Rosenberg: column 24, line 42) developing section.

Claim 20. A computer-readable recording (Rosenberg: column 1, line 26) medium according to claim 19, wherein said support program further comprises an analyzing program for instructing the computer to function as an analyzing section which analyzes and displays variation of said actuator instruction signal for the actuator and said sensor (Rosenberg: column 9, line 38) signal from said three-dimensional mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) section with real time.

Claim 21. A support computer apparatus comprising; a programmed computer processor controlling (Rosenberg: column 1, lines 25-27, "control led simulations") (Rosenberg: column 1, line 26, "controlled simulations") the support computer apparatus according to a process comprising: three-dimensionally designing a mechanism (Rosenberg: column 46, lines 47-50) composed of a plurality of parts comprising an actuator and a sensor (Rosenberg: column 9, line 38); simulating (Rosenberg: column 1, line 26) operation of the mechanism (Rosenberg: column 46, lines 47-50) according to a three-dimensional mechanism (Rosenberg: column 46, lines 47-50)model of the mechanism (Rosenberg: column 46, lines 47-50)based upon design data from the three-dimensional designing of the mechanism; developing an embedded control (Rosenberg: column 1, line 26, "controlled simulations") program to be embedded in the mechanism (Rosenberg: column 46, lines 47-50) to control (Rosenberg: column 1, line 26, "controlled simulations") the operation of the mechanism, by creating and Editing a status-transition diagram or table (common feature in software) describing specifications

of the embedded control (Rosenberg: column 1, line 26, "controlled simulations") program as detailed designing of the embedded control (Rosenberg: column 1, line 26, "controlled simulations") program, and exchanging mechanism (Rosenberg: column 46, lines 47-50)data and the status-transition specifications with the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) while synchronizing the three-dimensional-mechanism (Rosenberg: column 46, lines 47-50) model simulating (Rosenberg: column 1, line 26) with the status-transition specifications for the developing of the embedded control (Rosenberg: column 1, line 26, "controlled simulations") program.

Section II: Response to Arguments

Abstract

8. Applicants are thanked for addressing this issue. Objection is withdrawn.

Prior Art

9. Rejections are withdrawn.

English Translations

10. The Office acknowledges receiving English translated Japanese documents W0 00/36477 and JP402253303 as stated in the interview conducted April 21, 2006 while HEI 02-253303 was also considered; however, the Japanese Patent Application number 2000-034642 was not considered (see section I, Information Discloser

Statement). The Office is unclear regarding applicants' statements on page 11, 3rd paragraph regarding finality.

Rejections

11. Applicant's arguments, see pages 12-14, filed 08/28/2006, with respect to the rejection(s) of claim(s) 2-10 and 12-21 under 35 102(b) and 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Rosenberg and Ridgell.

Citation to Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Jo et al., "Virtual Testing of Agile Manufacturing Software Using 3D Graphics Simulation" IEEE 1997 pg. 1223-1228: teaches a method of agile 3D simulation for various workcell scenarios.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

November 7, 2006

TS

11/13/06

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